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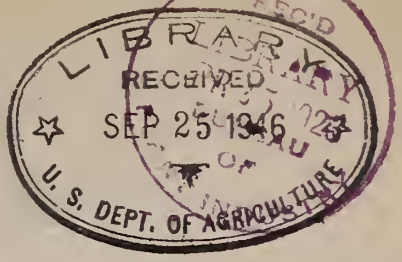

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR WEEK ENDING APRIL 14, 1923.

AKRON:

The past week has been favorable for field work and all experimental early spring seeding on the rotation, sheep rotation and cereal project was completed. All spring work is approximately ten days later than the average because of the snow and rain of March 15, which did not melt off until April 1. Field work is in active progress throughout the country-side, much winter wheat land being seeded to spring wheat, oats and barley, the latter predominating.

Winter wheat is emerging but it is yet too early to make estimates of stands. It appears that the stand on all the rotation plats will be light. The rotation winter wheat plats and the winter wheat plats on the cereal project were lightly harrowed early in the week to break the crust formed by the melting snow. This action seemed necessary to prevent blowing and it was felt that it would aid the wheat in emerging. Heavy wind blew all day Friday but caused but little blowing on the station. It became necessary to harrow parts of the sheep rotation winter wheat and rye fields.

Nursery stock for fill-ins in the orchard has been arriving the past week.

January	netted	trace	of	precipitation;	13	year	average	is	.36
February	"	.18	"	" ;	"	"	"	"	.58
March	"	.95	"	" ;	"	"	"	"	.83

Maximum temperature 71, minimum 23; precipitation 0.

ARCHER:

Thus far during the month of April there has been but .24 inches of precipitation. However, the storms which occurred during the winter months have put the soil in good condition for tillage. Practically all disking has been completed and spring plowing will begin Monday. In order to handle this work the University of Wyoming has secured a new Fordson tractor and John Deere plows. A new Ford roadster with a truck bed is a recent acquisition.

Plans have been made for the establishment of swine feeding and pasture experiments.

Dean Hill and Director of Substations, Mr. Quayle, were visitors at the station Friday.

Maximum 62, Minimum 17; precipitation .24 inch.

BELLE FOURCHE:

Present indications are that this will be one of the latest springs ever experienced in this section. Practically no seeding has been done and very few farmers have done any spring work at all. The dry land rotation plats were sufficiently dry to permit the use of the spring tooth harrow on the 4th and 5th of April. On the 6th and 7th about six inches of snow fell. This snow was all melted by April 10 but the weather has been so cool that the soil has not dried enough to permit the resumption of field work. If the weather remains clear the soil will be in workable condition by Monday.

Bollefourche, continued:

The past winter as a whole was open and live stock losses were light. Nearly all farmers have enough hay left to carry their stock until the grass starts.

Winter grains on the dry land rotations did not come up last fall except on fallow. The winter rye is now coming up with a good stand. It is still too early to tell whether a good stand of winter wheat will be secured.

On the night of April 7 the temperature fell to 3 degrees below zero. This is the first time that the temperature has been below zero in April at this station.

The precipitation for the year to date is below normal. The precipitation for the year is, as follows:

January	.22 inch
February	.23 inch
March	.32 inch
April to date	.57 inch

In spite of the relatively low precipitation for the first part of the year, the soil is unusually wet due to the heavy November rainfall.

Maximum temperature 69, minimum -3; precipitation .07 inch.

BIG SPRING:

The weather during the past winter has been very favorable for farming operations. The total rainfall for the first three months of this year has amounted to 5.5 inches as compared to 1.77 inches, which is the twenty three year average for this same period. This good supply of moisture along with the warm weather, which has prevailed, caused the weeds to get an unusually early start; as a result of these conditions very little soil blowing has occurred thus far this spring.

There has been an unusually large amount of sod land broken throughout the county this year, and a considerable number of new farms have been established, mostly by farmers from the eastern part of the state. It is conservatively estimated that there have been 20,000 acres of new land prepared for planting this season, and most of this will be in cotton. The high price obtained for cotton last fall, and the good yields obtained here, have caused the farmers to increase their cotton plantings very materially this season.

With the exception of the "A" plats all of the station plowing has been completed for some little time. The April 15 date of planting was to have been made Monday, but this will have to be delayed for a few days because of recent rains.

Fifty fruit trees, consisting of peaches, plums, cherries, apricots, and persimmons were added to the station orchard this spring, also twenty varieties of grapes consisting of five vines each were added to the vineyard.

Maximum temperature 90, minimum 44; precipitation 1.14 inches.

COLBY:

Soil moisture, or rather the lack thereof, remains the outstanding adverse condition for spring cereals and for winter wheat. There is not a plat on the D.L.A. project at the present time which shows a normal stand for any of the cereal crops. Winter wheat plats have stands ranging from 20 to 80 per cent. The best stands of winter wheat are on different methods of preparation of the ground; no one method of preparation shows consistently better stands than any other. There will be sufficient wheat for a crop on each plat if favorable weather conditions prevail. There is a large percentage of wheat on most plats which germinated during the winter but failed to get through, due to cold weather and a partial crust which prevented emergence on a great many fields. A great deal of this wheat is dead, while the remainder would apparently have vitality enough to send the plant through the remaining fraction of an inch of soil if either moist or warm weather would prevail.

During the past week there have been several consecutive nights during which the temperature has remained well above freezing. The wheat which is up has doubled in growth since these warm nights have been raising the mean daily temperatures. The wheat last fall went into a very dry surface soil and failed to germinate previous to the rain of November 4 in which we received approximately 2.75 inches of moisture, a large run-off resulting. Wheat did germinate immediately thereafter but it turned cold on the 11th of November and the cold weather, together with a crust, prevented emergence until during February, March, and the first week of April. All plats on the D.L.A. project, except stubble plats, were harrowed the latter part of November to break the crust. All stubble plats, as well as stubble fields over the county, caught the light snows which we had, so that the surface soil was kept moist and loose enough to permit of emergence. Stubble plats show three leaves on the plants, while other winter wheat plats show not over two. Soil moisture determinations have been made on the four MC-winter wheat, one continuous stubbled-in winter wheat, and the three wheat plats in Rotation 574. The surface two feet contains most of the available moisture.

Barley, spring wheat, oats, and peas have been seeded over two weeks but there is not sufficient moisture to insure germination to a stand, unless it will be the plats that were fall plowed and rough enough to hold the snow, or the spring plowed plats which had stubble sufficient to hold enough snow to give moisture required for germination. A few plats have germinated and show 50 per cent of the spring grains up. Other plats were either too dry for germination of the grain or else were moist enough only in spots. Peas are not up to a stand, in fact they have germinated but not emerged.

There has been some soil movement by wind at various times during the winter, usually for only a day at a time, and the same is true for this spring. All alleys on the D.L.A. project were listed in November, which has prevented blowing on the project. The furrows have not been thrown in as yet because the soil is still in excellent condition to blow. One commercial plowed field of winter wheat caused some little worry this week, so that, to be on the safe side, listed furrows were listed every two rods to keep down blowing. Two small fields, one containing winter wheat varieties, the other winter wheat method, rate, and direction of seeding tests on fallow ground, were listed in a like manner

Colby, continued:

The surface soil on fall plowed and fallow fields is in excellent condition for blowing, due to the hard beating rain of November 4 leaving the ground level with a crust.

In addition to the D.L.A. cereal plats, we have the following cereal work at the present time: 7 varieties of winter wheat in triplicated twentieth acre plats, 72 nursery rows of 24 varieties in the winter wheat hardiness project, 356 nursery rows of winter and spring wheat crosses, 724 nursery rows of barley varieties, 22 nursery rows of barley crosses, 19 varieties of barley in replicated twentieth acre plats, 7 varieties of oats in replicated twentieth acre plats, 8 varieties of spring wheat in replicated twentieth acre plats, 1 acre of Prelude spring wheat increase, 1 acre of Coast barley increase, 32 twentieth acre plats in the rate, direction, and method of seeding of winter wheat, and 1 field of 15 acres in commercial barley; also three plats of Canada Field peas, one planted with the surface planter, one drilled with grain drill, and one drilled with oats with the grain drill to see if we can produce a hay crop.

The orchard is being doubled disked four directions today. The alfalfa was renovated this week. All fields, except three small fields, were disked this week. The fields will be listed later to corn and sorghums. The other fields will be disked as soon as the balance of the manure has been spread on the fields.

There have been no rains of any consequence since the rain of November 4. The condition of the wheat over the county is estimated at 50 per cent of normal.

DALHART:

Conditions have been somewhat more favorable the past week than for some time. There have been some hard winds but nothing like past weeks. This week was accommodated with an exceptionally good rain netting 1.38 inches. This rain fell in a slow gentle shower and lasted from about 5 p.m. on the 11th to about noon on the 12th. There was not any run-off.

This spring is more favorable than usual for fruit. There is a good chance for a crop in this section at this time. The fruit trees have not budded early and bloomed as they usually do. The cold weather extended through March so as to keep the trees in check. The peach and apricot trees are the first to bloom and they usually bloom in March in this section. This year they are just now beginning to bloom. Some will not be in full bloom for a week. Cherry buds are just beginning to swell and apples have not started yet.

The vineyard was planted during the week, also most of the other tree planting that was to be done. Everything is planted in good time so as to get the benefit of the recent rain. Considerable cloudy weather has prevailed since the rain and is a good help to the recent plantings. Some cultivating was done to check soil blowing just before the rain. It is quite likely that it will all have to be done over again unless the winds are somewhat blown out. Some plowing was also done during the week.

Dalhart, continued:

Grass is just beginning to green up and conditions look more favorable to farmers and ranchmen. The tension is somewhat relieved since the rain. Much spring work is being planned and everything is in readiness for operations among the farmers. Business in general seems to be picking up in this locality.

DICKINSON:

This has been a backward spring. The only field work done has been the disking of a block of corn ground on April 12 for wheat varieties. A rain and snow on the 13th stopped work for a few days.

The past winter as a whole has been about average in severity. January was mild, February unusually cold with a severe blizzard on the 13th, and March slightly colder than average. The first week in April was cold and the precipitation up to the middle of the month is above normal.

Moisture conditions are the best since the spring of 1916. Samples taken April 14 show the first foot on stubble land almost saturated, with some available moisture lower, while on fallow the soil is wet through the fourth foot.

General farm conditions are good. Stock has come through in excellent shape and there is plenty of feed. More tractors and other farm machinery have been sold by local dealers this spring than for several seasons. There has been an unusual demand for seed distributed by the station.

Maximum temperature 61, minimum 5; precipitation .61 inch.
The total precipitation for 1922 was 18.02 inches or 2.74 inches above the 31-year average.

GARDEN CITY:

The past winter and spring have been very dry. The total precipitation received since the ninth of last August is 1.09 inches, which was distributed in eight showers.

The winter wheat which was seeded last fall, germinated and died making the re-seeding to spring wheat necessary. The ground is so dry that there is no chance of germination until moisture is received. The greater part of the winter wheat in this part of the state is dead and the land will be planted to row crops or will be fallowed during the coming season.

No spring tillage has been attempted on the dry land project so far. A part of the general fields on the station were plowed, but the soil turned over in such large clods that it was thought best to wait until precipitation is received before any plowing is attempted on the plats.

This spring has been a rather backward one. The alfalfa on the station is just coming up. The slowness with which this crop is coming is partly due to weather conditions and partly to the damage done by jack rabbits. The winter has been so open that the rabbits have pastured the alfalfa fields and lawns until practically no vegetation is left.

HAVRE:

The past winter has not been especially severe for this section but has been characterized by periods of rather extreme range in temperature. The most severe weather was from December 4 to 19 when the thermometer did not get above zero and with a minimum of 36 below. Temperatures for January were generally above normal. The first two weeks in February were cold with a minimum of 32 below.

The precipitation for the winter has been slightly above normal. The total for January amounted to an inch which is one quarter inch above the normal. Snow during the winter drifted more than usual, there being several drifts on the steep northeast slopes yet on the station.

Field operations started on the station March 28 when the most of the fall plowing and some of the stubble plats were worked down. During the first week in April the ground was frozen. Plowing started on the 10th. The rotation plats are now about ready for seeding but this operation will be delayed for a few days so that the Russian thistles will have an opportunity to start before seeding. By handling in this manner and using a weeder just ahead of the drill we find that the thistle infestation is greatly reduced.

Winter rye seeded in November is coming through the ground and shows prospect of a good stand. Winter wheat seeded at the same time may be a stand on fallow where it has sprouted in good shape, but on fall plowing there is little prospect of a stand.

Brome grass and Cristatum have started growth and the last two days native grass is beginning growth.

HAYS:

The week ending April 14 has not been such as to change the story, which is now eight months long for this locality--that is, one of practically continued drought. If our figures are correct, the eight-month period ending March 31 is the driest on record for that period of the year.

Early seeded oats and barley are coming up only in spots where trash or weeds caused drifts of snow which made sufficient moisture to dampen the surface of the soil. Likewise the winter wheat fields present a very barren appearance except where sown in stubble or trashy ground, which may have collected sufficient snow to dampen the soil and stimulated a light growth; but even here there is not enough growth to make the fields look green from a distance. Therefore, the prospects for winter wheat at this time are very poor. To begin with, a large per cent of it never emerged, and some of that which came up died of drought and some has blown out. These notes apply to Ellis County and to parts of adjoining counties north, west and south. Conditions east are very much better.

In this locality there are no trees or shrubs out in leaf. Only a few trees have swollen buds. Grass and weeds are starting growth in the more protected places where a little snow collected.

Hays, continued:

The soil condition for spring work is very poor. Clods turned up by late fall plowing are still large and hard. A good job of spring plowing is impossible; the dry condition of the soil making it very difficult to do plowing of any kind. Thus far on the project spring plowing has been done only on plats where the method required spring plowing for small spring grains. Deep cracks in the soil are numerous, many of which are from one to two inches wide at the surface. It is with the greatest of difficulty that soil samples are being extracted for moisture determinations, due, of course, to the dry, hard, and cracked condition of the soil. Spring wheat, oats, barley, field peas and brome grass was sown April 5 and 6.

Work during the week consisted largely in making moisture determinations. The G plats of M.C. Kafir and milo were cultivated, Rotation 508, Plat B, listed and 509, plat B, double disked as part of the seedbed preparation for Kafir. Also the application of commercial fertilizer was made in the alfalfa fertilizer experiments.

Maximum temperature 73, minimum 22. Total rainfall, (two rains,) .06 inch. One heavy frost, which occurred the morning after one of the rains.

HUNTLEY:

The past winter has been unusually mild and open. With the exception of two weeks in December, when a minimum temperature of -32 was reached, and a short period about the middle of February, below zero weather was infrequent. Snowfall was light and in most cases the snow melted soon after falling or was blown away. An unusual event was a gentle rain totalling .53 inch which fell December 28 and 29. Another small shower was received January 6. Long periods of windy weather were experienced throughout the winter and much soil drifting took place in this part of the state. The greatest damage took place on fallow and smoothly-cultivated fall plowed fields. Corn land, rough plowing and stubble land showed the minimum effects of blowing.

Because of the dry fall only a small per cent of the winter wheat came up before cold weather. Much of that which did come up has been killed out by drought and soil drifting. On the plats, fall-sown wheat and rye are just now coming through the ground. The stands, as yet, are thin and the plants rather sickly. Some farmers are making preparations to reseed their land to spring wheat, while others, profiting by the experience of the last two years, are planning to give the winter wheat a chance to make a crop. If their winter wheat does not increase in stand to a reasonable extent they plan to list much of the land and plant it to corn.

As a result of the good corn crops last year and the extensive propaganda relative to diversified farming, a greater amount of interest than usual is being taken in corn growing this spring. From information that has reached the Station it appears that corn, wheat, beans and hogs are the crops a large number of dry-farmers are planning to raise this year.

Field work on the Dry-Land plats was begun April 11. Though much of the ground is too wet to work well it was possible to harrow pastures and some of the fall plowing with fair success.

Maximum temperature 73, minimum 21; precipitation .10 inch.

JUDITH BASIN:

The greater portion of the week has been comparatively warm and the snow has all disappeared except where deep drifts were present among the trees and in the coulees. The ground has dried very rapidly and if the present good weather continues, the commencement of field work will be possible within the next few days.

The weather during the spring thus far has been too cool to permit of much growth and it is rather early to determine the extent of winter injury to fall wheat. Numerous reports have been received of fields of winter wheat being blown out, especially where the crop was seeded on burned off stubble land. Winter wheat on the rotations appears to be in a critical condition but the indications are that a fair stand will be obtained on most plats.

Work during the week has been devoted almost entirely to excavating the basement for the new office building which is to be erected this spring.

Director F. B. Linfield, of the Montana Experiment Station, visited the station on the 12th and 13th.

Maximum temperature 59, minimum 10; precipitation .02 inch.

LAWTON:

Mild temperatures up to February 1 and an unusually large amount of rain the latter part of January are two of the chief characteristics of the past winter season. The mean temperature for January was 10.3 degrees above normal, and the rainfall exceeded the normal supply to the extent of 3.33 inches.

The February mean temperature was 2.9 degrees below normal, and the deficiency in rainfall amounted to 0.57 inch.

March proved to be the winter month of the season. On the 17th and 18th the minimum temperature dropped to 13 and 12 respectively. Exceedingly high winds accompanied the freeze with much damage to early fruit and oats. Hard, cold, blustry winds prevailed throughout the month, checking and preventing all vegetative growth. The mean temperature for the month was 5.4 degrees below normal and the precipitation which occurred in small showers totaled only 1.30 inches, leaving a small deficiency.

April temperatures were low for the first ten days, and plant life of all kinds showed the need of rain and warm weather. Precipitation to the amount of 1.02 inches fell on the 10th and small grain as well as native grass showed a rapid response.

Wheat: The acreage of wheat seeded in the fall was about normal although the soil was very dry. Nearly 2 inches of rain about October 30, however, brought the wheat through the winter in very good shape and since the rainfall of 4.37 inches the latter part of January considerable pasture has been afforded. The hard freeze on March 17 and 18, accompanied by the unusually strong wind, temporarily damaged the wheat and checked its growth.

Lawton, continued:

Soft wheat showed more evidence of damage from the freeze than hard wheat, but it made a fairly quick recovery and appears to be in normal condition now. Wheat prospects in this section are just now pretty good.

Oats: Soil moisture conditions at seeding time were optimum and the acreage is probably a little large. Germination was very satisfactory, and growth nicely started when killed back to the ground by the March freeze and blowing sand. Recovery was slow but fairly complete. Only a few fields were killed but that which survived now looks fairly vigorous.

Winter barley, seeded early or late in the fall, has made a good showing through the winter. Growth has been satisfactory and pasturage was afforded in many instances.

Alfalfa and all other grasses are late. Freezing temperatures and hard winds from the north dried the surface soil rapidly delaying the growth of such plants at least two weeks or more.

In general, more farm work was done throughout the winter than usual. This was largely accounted for by the mild winter temperatures and a fairly good supply of surface moisture. Land that is to be planted to row crops is now in good condition. If suitable weather follows it is quite likely that row crops, except corn, will be planted a little early and under rather favorable conditions. Corn which has been planted for some time should now germinate well.

The soil, however, is not saturated to any appreciable depth and crop prospects are subject to rapid fluctuations.

Green bugs are reported to be doing some damage to wheat and oats although it is not extensive in this county, at the present date. Chinch bugs survived the mild winter in excellent shape and are now present in wheat fields that are adjacent to suitable hibernating quarters.

MANDAN:

Agronomy.

The past winter was considered severe. The temperature did not go extremely low, but it continued cold for days at a time. A number of severe blizzards occurred during the winter, and at times the roads were practically impassible. The loss of stock was not heavy as there was an abundance of feed available.

The heart River broke up early in March, and overflowed the flats between the station and town. Considerable damage was done to property in the lower part of Mandan.

The Missouri River broke up a few days ago. Ice has gorged again in the Heart River, and it appears that another flood may occur.

The precipitation for January, February and March was .90 inch, which is about an inch less than the 45-year mean for the same months. The precipitation for the first half of April has been below normal.

Mandan, continued:

No field work has been done on the station to date, and very little in the country. A small acreage of wheat has been seeded in the country on corn ground. About an inch of snow fell on April 13. Field work should start early next week if the weather remains good.

As far as it is possible to tell at present, winter wheat drilled into stubble has come through with a good stand. A winter wheat nursery seeded on fallow is completely dead.

Crested wheat grass (Agropyron cristatum) and Brome grass have started growth with the wheat grass ahead of the brome.

Cooperative Grazing Experiment.

The cattle for the grazing experiment have been wintered at Solon, North Dakota, and will be delivered at the pasture early in May.

Maximum temperature 59, minimum 21; precipitation .50 inch.

Horticulture.

Field work has not yet started, but greenhouse work has been in progress for a number of weeks. Such vegetables as tomatoes and cabbages are being grown in flats, and a number of flower bulbs have been potted.

Fruit breeding work in the greenhouse is almost over. More apples were crossed than in any previous year, besides the usual number of plums and cherries. A considerable amount of fruit is now setting.

From observations made thus far, it does not appear that winter injury has been unusually severe. However, damage by rabbits, particularly to apple trees, has been very severe. Poisoning was found to be fairly effective in keeping these pests in check, except when the poison bait became covered with snow during storms. It may be that the fields will have to be gone over daily during the winter in order to supply fresh poisoned grain. At any rate some method must be found to avoid this damage as it seriously interferes with experimental work.

Aboriculture.

Preparations are all ready for shipping trees but the frost is not all out of the healing in beds. It is possible that planting may be started in the shelterbelt nursery this coming week.

NORTH PLATTE:

As compared with several years previous the spring is late and dry. Precipitation for the four months previous to April totaled but .63 inch. The normal for these months is 2.11 inches. One snow since April 1 supplied .33 inch of precipitation. The first foot of soil contains from 14 to 17 per cent of moisture. Below this there is practically no available moisture except in fallow.

First field work was done on March 28. Seedings of spring grain on the D.L.A. plats were made April 6 and 7. In the previous 16 years seedings were made earlier than this 12 times and later than this 4 times.

Winter wheat has made a good survival on fallow and early fall plowing. On late plowing and corn ground it is thin and weak and reseeding may be necessary. With a little surface moisture and a week's lull of the wind it would have a chance of pulling through.

SHERIDAN:

No work has yet been possible on the Rotation field here this spring except to rake and burn the Russian thistles from the plats. This has been done during the past week over the most of the station, but showery weather yesterday prevented its being finished. With continued fair weather, plowing on the Rotation field probably will be possible the first of next week.

Breaking sod on the east side of the station was begun the 28th of March. Work was continued here at intervals when the weather permitted until work on some of the cultivated fields was possible. Somewhat over one-half of the sod land that remained has been broken to be used for feed crops.

Plowing the lighter soil on the north side of the station was begun the 5th of this month. Snow interfered then, however, and work was not possible here again until the 10th. Nearly all of the ground for forage crop work has now been plowed and Field A, Block A, has been partially prepared for seeding.

Winter wheat on the Rotations began to show above the ground about the first of the month. A fair stand is now apparent on the most of the fallow plats, but on many of the others only a few shoots here and there have appeared. Winter Rye emerged in the fall and appears now to be in good condition.

The last seeding of winter wheat in the Rates and Dates of seeding test, made November 9, has not yet emerged. All of the other seedings in this work and in the varieties, except the August 1 seeding, show a fair stand at present. This seeding apparently was completely killed out by grasshoppers last fall after emerging.

Brome grass and crested wheat grass started growth the latter part of March, and both show up well at present. The crested wheat grass has made the best growth to date, but both are somewhat ahead of the native grass. Alfalfa began to show some growth about the middle of this week.

Sheridan, continued:.

The weather during the past winter was quite variable. Some severe weather was experienced during December and February, and there were long periods of exceptionally mild weather throughout the winter. A heavy fall of snow occurred the last of October. Precipitation for November and December was slightly above the average for the time recorded at this station, but January and February were low. Precipitation was heavier than usual during March, and there have been a number of light falls of snow so far this month. Precipitation for the entire period to April 1 was 4.20 inches as compared with 3.39 inches last year. There was a heavy run-off this year, however, whereas last year nearly all of the moisture went into the ground. There was considerable washing over the entire station. At the present time on the stubble and fall plowed land moisture extends only to a depth of 12 to 18 inches.

Maximum temperature 65, minimum 11; precipitation, April to date 1.12 inches.

TUCUMCARI:

No precipitation was received here in December and January; but February and March were both somewhat above the mean. On April 11 1.54 inches was received, making the total 3.54 inches, compared with a mean of 3.39 inches for the first four months of the year.

Temperatures throughout the winter were above the mean, but March was unusually cold. Peaches and plums are in blossom and are in danger of being killed by frost or hail, for the average date of last killing frost is April 22.

Winter wheat on the plains to the southeast germinated to a limited extent last fall and much of that which sprouted was killed. Following the favorable weather conditions of the past month, most wheat fields are improving in appearance rapidly, but stands are somewhat thin in most cases.

Farmers have been listing and plowing for some time and indications point to an unusually heavy acreage of row crops. The feed crop acreage will be at least as high as usual, while there will be an increase in the broomcorn acreage. Cotton is still being pushed and no doubt will be grown to some extent in every farming community in this county although, no doubt, farmers will plant less of this crop than was expected. Last year about 150 bales was procured from about 3000 acres--no doubt the acreage will be doubled or trebled this season.

Wind velocity has been high during much of the past six weeks, although very quiet days have brought the average velocity down slightly below the mean for these months. Sand blowing has been serious both in the valley and on the plains, but to date there has been practically no trouble on the station.

Station work the past week has consisted of pruning the orchard and shade trees, plowing, grinding feed, and setting out Bermuda sod.

Maximum temperature 76, minimum 38; precipitation 1.54 inches. Evaporation 1.527 inches. Average wind velocity 5.9 miles per hour.

WOODWARD:

The past winter was very dry with no rain of any consequence from November 10 to March 10; on March 10 and 11 we had a total of 1.52 inches. We had only two very light snow storms during the entire winter which gave us practically no moisture. Since March 10 we have had no precipitation in sufficient quantities to do any good except temporarily.

Wheat around Woodward was planted in most cases in time so that it emerged to a good stand and developed permanent roots last fall, so was able to survive the winter and furnish some pasturage, and the rains early in March furnished sufficient moisture so that it is looking better at the present time than it has at this time for several years, though it will be needing moisture soon. Some of the wheat on the station is jointing at this time.

Corn on the rotations was planted the 3rd of April.

All the peach buds in this section were practically killed by the freeze early in March when the temperature went down to 6 degrees above zero. A few varieties were about ready to bloom at that time. Practically all the Elbertas were killed and other varieties on the station varied from 80 to 100 per cent killed.

Freeze damage to plums varied according to varieties some being all killed in the bud, others not hurt at all, with all degrees of injury in between. Cherries were practically undamaged.

We have one Toyahvale apricot tree which is in full bloom at the present time and apparently was very much less damaged than any variety of peaches or other apricots which we have in the Station orchard. Most varieties which survived the freeze are now in full bloom.

During the past week missing trees in the orchard and missing vines in the vineyard have been replaced. A small vineyard of about 100 vines, of several of the better varieties in our present vineyard, was planted on lower land. A varietal planting of berries, consisting of about 45 varieties, was made. Several hundred seedlings trees of a dozen or so different varieties were planted along a draw on the Station. There was also considerable planting of other shade, ornamentals, and windbreak trees.

Weather: Precipitation:

January	0.00	inch
February	0.06	"
March	1.86	"
April to date	.44	"
	2.36	inches

Maximum temperature 73, minimum 33. Evaporation 1.328 inches. Wind velocity 5.8 miles per hour.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

APR 21 1923

REPORT FOR WEEK ENDING APRIL 21,1923.

AKRON:

Favorable weather for field work prevailed during the week. The rotation corn plats were plowed Monday and packed immediately following. The two sheep rotation corn plats were plowed and packed next. The three acre strip devoted to rate and spacing experiment with corn was finished Saturday evening. This completes all the spring plowing for corn. One three acre strip of corn ground was disked and seeded to a mixture of Kherson oats and Coast barley to be cut for hay. Another three acre block of spring wheat stubble was disked and seeded to oats for feed. Removal of dead and condemned trees from the orchard received attention.

Winter wheat has emerged though it is yet not visible enough to make close estimate of stands. On the rotation plats it does not now appear that there will be more than 40 per cent stands, though some of the other winter wheat plantings seem to promise better stands. Spring sown grains are emerging at about the average date, though they were seeded some ten days later than the average date.

Extremely warm weather prevailed two days out of the seven and buds were noticed to swell prominently in the fruit orchard. A little less favorable weather at this season of the year would be more acceptable to the fruit prospects.

Maximum temperature 82, minimum 25; precipitation .14 inch, received in two separate showers.

ARCHER:

The first five days of the week were warm and favorable for field work. During this time all Dry-Land plats were plowed and considerable plowing was done with the tractor. Spring work generally is advancing rapidly.

Winter wheat suffered severely during the winter months due to soil blowing. The plats seeded by the furrow drill are 80 per cent better than those seeded by the common drill. That seeded in corn rows and oat stubble is emerging. In the winter wheat district to the east a heavy crust in connection with dry weather is proving a serious factor to this crop.

Grass on the prairies has made good growth for this time of the season and livestock conditions have improved.

Maximum temperature 73, minimum 17; precipitation .00.

BELLEFOURCHE:

The week has been favorable for field work. The first part of the week was warm and the soil dried off rapidly. The last few days have been cool, but there has not been rain enough to stop field work for more than a few hours.

Bellefourche, continued:

All preparation of land to be seeded to small grains was completed on April 18. The spring plowed plats were wet at the time they were plowed, and turned up in very lumpy condition. Fortunately, the weather was cool after plowing, and it was possible to get these plats worked down into fairly good condition without the soil baking as much as it usually does.

Seeding was commenced on April 18. The wheat, oats, and barley are now seeded, and it is probable that the peas, sweet clover, and brome grass will be seeded today.

Maximum temperature 86, minimum 26; precipitation .06 inch.

BIG SPRING:

Conditions this week have been such that no field work could be done, other than cleaning up a few weeds. During the first part of the week, the soil had not dried out enough from the rains of last week, and then on the night of April 19 another soaker occurred when 1.19 inches fell within an hour's time. This rain came so hard and fast that it packed the soil considerably and caused a large amount of run-off to take place.

Although no planting has been done on the station as yet, many farmers have planted considerable cotton and feed crops. They report now that nearly everything will have to be replanted, as it either washed out or was covered up so deeply that it will never come up.

Maximum temperature 71, minimum 41; precipitation 1.19 inches.

DALHART:

The past week has been rather favorable in many respects. The temperature has been above freezing every night and the days were quite warm for this time of year. A good rain of .58 inch fell Thursday night and was followed with a north west wind, which averaged 37½ miles per hour for a good part of the day, Friday. The temperature has everybody guessing. There has not been a night with freezing temperature since April 5 and then only 30 degrees. The last good freeze was on the night of March 31 when the thermometer dropped to 25 degrees. It does not seem possible that this month will slip by without another good hard freeze. Friday night, April 20, the temperature dropped to 32 degrees, but no damage was done. These are ideal conditions for a good fruit crop in this section if the frost will hold off until October, which does not seem reasonable that it will.

Some field work was done during the week, which consisted of plowing, harrowing, leveling and listing. The harrowing, leveling and listing was done on the listing methods. All the selected seed for planting this year's crops was threshed during the week. This will be cleaned in time for the planting to be made May 1.

Dalhart, continued:

There has been no soil blowing on the station during the week. The wind has blown considerably this week and has caused soil blowing on neighboring farms to a considerable extent. Farmers are listing their fields when conditions permit. The spring and winter wheat outlook in this section is very slim at this time, especially the winter wheat. There is a good chance for the spring wheat where it was not sown too late. The cotton fever among the farmers has not abated any at this time. One farmer living north of Dalhart is reported to be making arrangements to plant 500 acres. This section will soon be on the map so far as cotton is concerned but it is too early to make definite speculations as to which side of the map it will be on. It is quite likely that cotton will get one of the worse jolts in its history on account of so many farmers going into it who have never seen cotton grow. It remains to be seen just what result this will have.

GARDEN CITY:

Although good rains were reported in the surrounding country the station is practically as dry as it was a week ago. The past week has been cloudy a large part of the time, but only .12 inch of rainfall was received. As yet no spring tillage has been started on the Dry-Land project.

Small grain and alfalfa on the irrigated plats are beginning to make a growth. Although the temperature went down to 25 degrees last night there was no noticeable damage done.

HAVRE:

Temperatures were unusually high the first of the week with a maximum of 83 on the 17th. The last of the week the maximum temperature has been around 55, with a minimum below 40.

Plowing and cultivation on the rotations is complete for small grains and flax, but no seeding has been done yet. The warm,dry weather has started the thistles in very good shape and it is planned to use a weeder just ahead of the drill.

Native grass has started growth and the prairie has a green cast. Most of the stock are out but the pasture is yet limited.

There was no appreciable precipitation during the week. Unless rain falls before seeding the seed bed on the most of the fall plowed plats will be cloddy and in poor condition.

HAYS:

Maximum temperature for the week, 83, minimum 31. Precipitation, total of showers on three different days, .08 inch, and three days of continuous very high wind.

Hays, continued:

Oats and barley are beginning to come up in small patches where just enough snow collected to dampen the surface soil

Winter wheat still is in extremely poor condition. Some of the plants are drying up on ground prepared by methods other than fallow. On the fallow ground the stand is so very thin and so backward that it seems impossible for it to make much of a crop, even with favorable conditions from now to maturity.

Work during the week consisted largely in soil moisture determinations. The only ground where much moisture is found is fallow and kafir ground where the stalks were left standing over winter.

HUNTLEY:

Showers on the 18th kept teams out of the field until the afternoon of the 20th. Warmer weather combined with the recent rainfall has thickened up the stand of winter wheat to some extent and started growth in the alfalfa and brome grass plats.

Plowing is well under way and on the lighter soils disking and harrowing is in progress. Much of the spring wheat crop has already been planted by farmers and in a few instances planting of oats and barley has been done.

This station has received several calls for flax seed and for information on growing the crop. These requests are the first that have been received in several years and are, no doubt, the result of a recent meeting of Minneapolis and Billings business men at which a campaign for "more flax and less wheat" was launched. As most of these farmers are planning to plant their flax on newly broken sod land the movement might be interpreted to show something of the returning confidence in dry farming and the desire to enlarge the cultivated holdings.

Maximum temperature 80, minimum 28; precipitation .16 inch.

LAWTON:

Alternate days of cold and warmth continued through another week. Although the weather has been very favorable to the growth of wheat it is too cold for corn. Corn is emerging very unevenly and the plants do not look vigorous. A species of very small ants seem to be widely scattered throughout the surface soil and considerable damage to sprouting grain has resulted.

Wheat is making an excellent growth and appears to be in normal, healthy state of growth. Growth is sufficiently advanced to create a steady and rapid demand for soil moisture, which will have to be supplied by timely rains.

The growth of winter barley parallels that of wheat. Spring barley and oats although late are doing as well as could be expected.

Lawton, continued:

The first date of planting for the grain and forage sorghums was made on the 16th. Surface moisture is optimum but the ground is cold.

As usual, a few farmers are planting cotton. Planting as early as the present date generally results in very poor stands.

The wind velocity and mean temperature for the week were both slightly below normal.

Maximum temperature 77, minimum 40; precipitation .53 inch. Average hourly wind velocity 7.6 miles per hour.

MANDAN:

Agronomy.

Field work started on Monday, April 16, and is now completed for seeding. Wheat will be seeded early in the week. The soil worked up in excellent condition for seeding. Brome grass and Crested wheat grass is now making rapid growth. Crested wheat grass would be fit to pasture. Alfalfa is just starting growth and there is no indication of winter killing at present.

Seeding has been general over the country the past week. A great deal of wheat will be stubbled in, while a good deal is going on spring plowing. Very little field work has been done in the eastern part of the State.

Horticulture.

About 3000 tomato plants have been set out in the hot beds and bedding plants for the grounds are being made ready. The annual dormant pruning of fruit trees has been in progress throughout the week. It was necessary to cut some of the trees back severely on account of rabbit wounds. Apples are most severely damaged, and the rabbits even seemed to have a decided preference for certain varieties. The ground is now in good shape for spring planting work, which will occupy most of our time next week.

Arboriculture.

Shipping of trees has been delayed because of the late opening of spring, making it impossible to dig the stock. Everything is now ready and the shipping will be begun on Monday. The following is the list of the shipments to be made: - New plantings, 235; Hardwood replacements, 96; Conifer replacements, 42; Conifer additions, 74.

NORTH PLATTE:

Dry conditions with high winds prevailed during the week until Friday, when after much threatening .48 inch of rain occurred. This will be of great benefit to spring grains and the weak winter wheat. Spring grains seeded April 6-7 have practically all emerged. No winter wheat has as yet been reseeded. Potatoes on the D.L.A. plats were planted April 17.

SHERIDAN:

The weather has been quite favorable for field work during the most of the week. Plowing of the Rotations for small grains will be completed today. The varieties of wheat, oats, and barley, and the Rates of seeding wheat were seeded the 18th. It was possible to work the ground for this work much earlier than the Rotation field.

More of the winter grain emerged during the week, and it now appears that there will be a fair stand on most plats. Brome grass has been making a good growth and shows a better condition than in any of the past three years. All of the old alfalfa ground was double disked the first of the week, and the alfalfa is now beginning to show a good appearance. Weeds also have started over the most of the station and Russian thistles especially seem to be very thick.

Maximum temperature 77, minimum 30; precipitation .15 imch.

TUCUMCARI:

Spring wheat was sown on the M.C. winter wheat and winter rye plats early in the week, for practically all fall sown seeds had germinated and died due to drought. Spring seeding was delayed, due to danger of soil blowing and the dry condition of the surface soil. Plats 3, 4, and 5 of the special Listing Methods with Milo series were listed, while plowing of the south field for date and variety plats was continued. The sod field which was plowed early this spring was harrowed to break the crust, following the rain of a week ago.

Some time has been spent in pruning the ornamental trees and shrubs. Due to the winter irrigation these plants received, they should thrive this season if weather conditions are at all favorable.

Maximum temperature 75, minimum 36. Average wind velocity 6.5 miles per hour. Precipitation .55 inch, part of which came in the form of hail and injured a portion of the fruit blossoms. Evaporation, 1.443 inches.

WOODWARD:

During the week we have had four small showers. Most of the work has consisted of plowing orchards and windbreaks and some other cultivating. Corn, which was planted on the 3rd, emerged to a good stand. About 150 grape vines have been grafted with Vinifera varieties.

Maximum temperature 77, minimum 38; precipitation .31 inch. Average wind velocity 8.9 miles per hour. Evaporation, 1.306 inches.

COLBY:

Weather conditions for the past week have not been favorable to the growth of winter wheat. Most of the time, both night and day, we were bothered with extremely high winds. Throughout the day on Wednesday there was considerable soil movement, so much in fact that farm work was carried out under difficulties. There was so much soil in the air on Thursday that it was impossible to see any appreciable distance in the afternoon. Soil blowing in the

Colby, continued:

afternoon on Thursday reached its maximum, in fact we are told that it is not at all likely that there was any more soil in the air during the worst of the soil blowing in 1911 and 1912 in this county. Thirty points of moisture fell Friday so that the blowing was temporarily checked at least. In spite of the fact that all alleys in the D.L.A. project are listed the fallow plats were punished very severely by the soil-ladened wind on Thursday. The winter wheat plants appear to be whipped and dried very badly. Spring grains were not hurt to any extent. With the exception of two barley plats, too dry for germination, all spring grains are up to a good stand and were not hurt by the high wind and soil movement. Canada field peas are showing to a good stand.

Work during the week has consisted largely in cleaning up lots and general repairing. Apricots started blooming on the 20th. There was a freezing temperature of 29 on the 21st.

NOTE: The attention of field men is called to the importance of promptly mailing to the office stubs of used transportation requests, in order that they may be in the possession of the Office of Records when checking vouchers submitted by railroad companies.

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U. S. DEPARTMENT OF AGRICULTURE

APR 28 1923

REPORT FOR WEEK ENDING APRIL 28, 1923.
(Unless otherwise indicated.)

AKRON:

Rains have interfered greatly with general field work the past week but, with nothing rushing except early spring seeding in the forage experiment, no great delay has been experienced. Plowing has been in progress except immediately following and during the showers. The alfalfa block out by the railroad was broken up and it is planned to reseed it to perennial forage experiments. The alfalfa was so thin last spring as to encourage abandonment, but the sod remained too dry all last summer for breaking. Recent rains have added greatly to the agricultural outlook for this region.

The spring sown grains are now prominent enough to show green on the plats at some distance away. Winter wheat has not yet reached such a prominent stage, though in some cases it appears that there is as much as 50 per cent stands. Some of the apple trees in the orchard are breaking into leaf and the fruit buds on practically all the varieties are greatly swollen.

Maximum temperature 63, minimum 24; precipitation 1.40 inches.

ARCHER:

During the past week the weather has been cool and wet. Snow occurred April 22 and fogs and mists have prevailed since then. The past two days have been threatening with showers on the 26th and 27th. These conditions put a stop to field operations during the week and work was confined to the granary and shop.

Where sufficient stands have been secured, winter wheat conditions are greatly improved. During the past week considerable of the crop has emerged.

There has developed a very heavy demand for seed corn. Evidently the acreage is to be greatly increased. Mixed corn for seed is selling for $3.00 per bushel. The station has only been able to fill a few of the many orders.

Maximum temperature 54, minimum 18; precipitation .62 inch.

ARDMORE:

All field work was at a standstill throughout the week because of a snow storm which extended over a period of three days from the 22nd to the 24th, inclusive. Some snow drifts have not as yet completely melted.

Crested wheat grass and brome grass are both making a very rapid growth. The former is now ready for pasture, and brome is only a week or ten days behind. Five acres of each crop will be used as pasture for dairy cattle this season in comparison with a like acreage of sweet clover and native pasture. Native grass has not as yet made sufficient growth to furnish feed of any consequence.

Maximum temperature 60, minimum 12; precipitation .98 inch.

ARDMORE: Report for week ending April 21, 1923.

Precipitation for the fall and winter months was in excess of the 10 year mean for this station. This was largely accounted for by the abnormally heavy rains during the early part of November. The total precipitation from October 1, 1922 to March 31, 1923 was 4.13 inches. This may be compared with the precipitation for the same period a year ago which was 2.33 inches, and with the 10 year normal which has been 3.17 inches. Snowfall during the winter was light, amounting to only 27 inches for the six month period. Ground was bare most of the winter, and stock on the range did not suffer for feed.

Excessively low temperatures prevailed during the early part of the winter. The ground was bare and froze to an unusual depth. Spring opened three weeks later than a year ago and 10 to 14 days later than normal. No field work was possible prior to April 3, and seeding of small grain on the station was not completed until April 21. A year ago the seeding of small grain was finished on March 31.

Native vegetation has been slow about starting to grow due to the unusually low temperatures for this time of the year. First growth of native grass was noted on April 10. Brome grass started growth about the same date. Alfalfa is just coming through the ground.

There is an abundance of moisture in the soil, and all crops doubtless will make a rapid growth with the event of warmer weather. On the station approximately 100 acres has been seeded to oats, 22 acres to barley, in addition to the rotation plats of small grain.

BIG SPRINGS:

Another heavy rain fell on April 25 and 26, totaling 1.86 inches. This rain fell so hard and so quickly that it packed the soil considerably and caused a large amount of run-off. Although the soil is saturated with moisture, the sand started to blowing yesterday and is continuing today. The harrow is being used today to stop this soil movement.

During the first four months of this year the rainfall has totaled 10.04 inches as compared with a twenty-three year average of 3.97 inches. As a result of the recent rains all surface tanks are full and the ranges are in fine shape. Farmers as a whole are very optimistic over the prospects for this year, and most of them will start planting as soon as the soil dries out sufficiently.

The first date of seeding of the sorghums and cotton was made this week, but the hard rains packed the soil so that a good stand looks rather doubtful.

Maximum temperature 86, minimum 50; precipitation 1.89 inches.

DALHART:

Another week has passed without a frost. Fruit trees have bloomed freely the past week and everything seems to favor a good fruit year. The time for the last frost is about a week overtime so that chances are very favorable at this time. Trees are beginning to leaf out and some flowering shrubs are in full bloom. The rainfall the past week amounted to 1.64 inches. This rain came in three showers, which netted .29, .45 and .90 inch each. It has been too wet to do any field work since Monday. The rest of the week has been spent in doing odd jobs. Preparation of the cereal and forage block was begun Monday so as to have the seed bed ready for the first date of planting which is to be made Tuesday of next week.

Mr. E. F. Chilcott was a station visitor this week. He left Dalhart on the 25th for Tucumcari, New Mexico, accompanied by the writer.

DICKINSON:

Wheat and oats were seeded on the rotations April 21 and barley on the 23d. A snowstorm on the 23d stopped work in the field until the afternoon of the 25th. Increase fields of K-98 and Kota wheat and Victory oats were seeded on the 26th. The first seeding in a flax tillage experiment was made on the 21st. Plowing of land for additional rotation and tillage experiments was started on the 28th.

Crested wheat grass has made a greater early growth than either brome or slender wheat grass and all of these have a greater growth than either alfalfa or sweet clover.

The dairy herd was shipped on the 24th to the Hettinger Substation, only a couple of cows being retained to supply the station mess. This transfer is the result of decreased appropriations, which caused Hettinger to be placed on the basis of a Dairy Demonstration Farm.

Mr. J. M. Stephens visited the station April 27.
Maximum temperature 77, minimum 23; precipitation . 26 inch. April precipitation to date 1.56 inches or .36 above the average for the month.

GARDEN CITY:

The seven and one-half months drought was broken this week. Wednesday night 1.66 inches of rain fell. It came down so rapidly that a part of it was lost by run-off. Thursday another rain measuring .62 inch fell and during Friday afternoon and night .59 inch of rain was received. The last two rains fell in such a way that there was little run-off. The last four days have been cloudy so that little evaporation has taken place.

Spring wheat on the dry land project has not emerged as yet. Alfalfa on the general farm is about six inches in height. Pastures in this part of the state are just beginning to green up.

HAVRE:

There was a slow snow storm during the week, beginning on the 24th and ending on the forenoon of the 25th. The rain gauge recorded only .18 inch but there was probably more than this as wind accompanied a part of the storm.

All plats to be seeded to small grains on the rotations were cultivated with a weeder during the week and the wheat is mostly seeded. Barley and oats will be seeded as soon as possible now. This cultivation with the weeder has killed a great many weeds that started during the last 10 days.

Winter rye is making a very good growth now although none of this crop was through the ground until this spring. Some of the winter wheat is coming through now but at best the stands will be very thin. Weeds are starting on all plats and it is questionable at this time whether to leave any of these or not. Under ordinary farm conditions all the plats would be reseeded.

Mr. N. F. Woodward of the Office of Forage Crop Investigations, and formerly with headquarters here, spent a few days here this week attending to some of the office seeding.

HAYS:

A nine months drought has at last been broken by a rainfall of 1.38 inches, which occurred during the week, as follows:

April	22	.03	
"	25	.10	Maximum temperature 70.
"	26	1.01	Minimum temperature 31.
"	27	.21	
"	28	.03	

The rains have already made a great change in the landscape. The small stand of wheat and the many weeds in the fields have taken on new life having already intensified the greenness of the general appearance. The early varieties of trees are coming into bloom rapidly and the buds are swelling on many of the other trees. Alfalfa on the upland has started growth and on the low land the growth is now six inches high.

Work during the week has consisted largely in making soil moisture determinations and general repair jobs.

The annual round-up was held on the Ft. Hays Experiment Station grounds today, Saturday. The attendance was very small, there being only about 130 for the Noon lunch and program. A large attendance was expected, but the rains prevented many of those from coming who had expected to make the trip by auto.

The annual boys stock-judging contest was held Friday preceeding the round-up. 83 boys and 6 girls from various counties were present in spite of the bad roads and took part in the contest. 69 boys who were expected to attend failed to arrive on account of the weather conditions and bad roads.

HUNTLEY:

Field work was resumed on the 26th after the rainy weather early in the week. Plowing is completed on the Rotation field and other seed-bed preparations are about completed.

Fall sown grains continue to make good growth and except for rather thin stands the plats appear better than expected for the conditions which have prevailed. Alfalfa and brome grass are starting slowly. A large amount of winter-killing is noticeable in these crops, especially where they were used for pasture last year. Weeds are making a good growth but there is an absence of the usual volunteer grain this spring.

Maximum temperature 80, minimum 24;; precipitation .50 inch.

LAWTON:

Although a little cool, the weather has been unusually favorable to plant growth during the last week. On the night of the 25th, a gently falling rain totaled 1.47 inches. Since that date the weather has been showery resulting in a total of 1.76 inches for the week.

All small grain is growing rapidly and the growth of wheat straw is likely to be rather heavy. Soft wheats were showing a few heads by the 25th.

Corn germinated slowly and rather unevenly but resulted in a good stand. Cool weather, however, has held the growth in check.

One of the most acute flights of chinch bugs ever observed here occurred on the 24th and 25th. For about two hours each afternoon the air seemed to be filled with these insects. Naturally all small grain carries a heavy infestation at the present time.

The grain sorghums, forage sorghums and broom corn which were planted on the 16th, are up to a good stand. Germination was more rapid and uniform than usual when planted on this date.

Cotton and sorghum planting will go forward quite rapidly as soon as favorable weather permits field work.

Maximum temperature 91, minimum 41; wind velocity for the week 6.6 miles per hour.

MANDAN:

Agronomy.

Seeding of wheat was delayed from April 24 to April 27 because of snow. This is the latest date of wheat seeding at this station. The previous latest date was April 24 in 1916 and 1920. All wheat in the rotations was seeded on April 27 and oats on the 28th. The wheat varieties and oat varieties for the Office of Cereal Investigations were seeded on the same dates.

Wheat has gone in under ideal conditions, as there was plenty of moisture to afford a good seed bed preparation and germination.

Mandan, continued:

Weeds are slow in starting this season. Russian thistles, which are usually growing rapidly at this time, are just getting started. The first sign of them was about April 20.

Soil samples were taken on the M.C. series of wheat in the Main field on April 27.

Approximately eight inches of wet snow fell on April 23. A cool cloudy day on the 24th did not allow the snow to go very fast. The next day the snow went fast and it was possible to get into the field and set the stakes for seeding on the 26th. Snow still remains on the north side of hills and in the coulees.

Victory oats were seeded in the rotations this year instead of sixty day.

Alfalfa and sweet clover are coming on slow, but crested wheat and brome grass are making a good growth.

There are reports of some corn planting in the county.
Maximum temperature 71, minimum 23; precipitation .72 inch.

Horticulture.

The tomato plants have been set out in the hot beds, and bedding plants for the grounds are being made ready. The annual dormant pruning of fruit trees has been completed and rabbit wounds, which have been very serious this year, have been carefully treated. Seventy trees for fruit breeding work, have been potted. Favorable conditions following the snowstorm of April 23, it has been possible to get a number of fruit trees planted out in the field.

Arboriculture.

It is expected that shipping of trees to Shelterbelt cooperators will be completed Tuesday night.

NORTH PLATTE:

Light to moderate rains almost daily for the past nine days have totaled 1.61 inches, bringing the total for the month to date up to 1.93 inches. The deficit for the year to April 1 was 1.11 inches.

Spring grains, alfalfa, and pasture, are coming on in fine shape. The crop on 32 of the 69 D.L.A. winter wheat plats was declared hopeless on April 23 and reseeded to spring wheat April 24 and 26. These plats were practically all of those upon which wheat followed corn and those late fall plowed. On early fall plowing anf fallow the stands are quite good.

SHERIDAN:

Rain and snow interfered with field work the first part of the week. About eight acres of fields A and B on the north side of the station were seeded to a mixture of grass and alfalfa on the 25th before the Rotation field was dry enough to work again. Preparation of the Rotation plats for seeding was resumed on the afternoon of the 25th. The wheat was seeded yesterday and the oats are being seeded today. Alfalfa, sweet clover, and brome grass were seeded in the Rotations Thursday.

Maximum temperature 67, minimum 25; precipitation 1.01 inches.

TUCUMCARI:

During the week rainfall totaling 1.25 inches was received, bringing the total for the month to 3.35 inches. Grass is making rapid growth, while one can see daily changes in the trees and shrubs. When it was too wet for field work a concrete foundation for the light plant engine was constructed, the concrete cattle guard was repaired, and harnesses were oiled.

The south field is being spring toothed preparatory to May 1 planting, while the strips for rate kafir and milo and the cotton block have been plowed and spring toothed.

Messrs. E. F. Chilcott and H. J. Clemmer visited the station during the week.

Maximum temperature 77, minimum 40; precipitation 1.25 inches.
Evaporation 1.446. Wind Velocity 7.3 miles per hours.

WOODWARD:

We have had several good showers during the week and winter wheat is looking much improved.

Practically all fall plowed plats and fallows on the D.L.A. project have been spring-tooth harrowed to kill weeds. The vineyard has been disked. Some of the valueless grape vines and some wild grape vines have been grafted. A few persimmons were also grafted. Several hundred grape cuttings and other cuttings have been planted.

Shipments of grape vines and other plants and other cuttings to other field stations were completed this week.

On Thursday afternoon, the 26th, the officials and delegates of the Western Oklahoma Federated Women's Clubs visited the station - there being about 150 present.

Mr. E. F. Chilcott, the superintendent, is making an official trip to Dalhart and Tucumcari stations this week.

Maximum temperature 83, minimum 44; precipitation 1.53 inches.
Evaporation 1.051 inches.

Mr. Clyde McKee, of the Agricultural Experiment Station, Bozeman, Montana, under date of April 30, 1923, wrote the Agriculturist in Charge of Dry Land Agriculture, as follows:

"The agronomic workers of the western states are to hold their Seventh Annual Conference at Bozeman this year on July 26, 27 and 28 and we wish to extend to you and the men in your office a very cordial invitation to be present and to take part in the program. I may say that invitations have been sent to all of the agronomic workers in the 17 states of the western half of the United States. As we do not have a mailing list of the men employed in the various field stations, we will appreciate it if you will send this invitation to them.

The indications are that the conference will be well attended this year, as already a number of men have indicated that they intend to attend the conference.

As Chairman of the committee, it will be appreciated very much if you will send us the titles of any papers that you or your men would like to present. As soon as suggestions have been received a tentative program will be worked out. As soon as we are able to plan a definite program, a copy will be sent to you. The committee hopes to work out a program which will be well balanced and of interest to the instructor, the investigator and the extension man."